

Please read this bit first

The HPCSA and the Med Tech Society have confirmed that this clinical case study, plus your routine review of your EQA reports from Thistle QA, should be documented as a "Journal Club" activity. This means that you must record those attending for CEU purposes. Thistle will **not** issue a certificate to cover these activities, nor send out "correct" answers to the CEU questions at the end of this case study.

The Thistle QA CEU No is: **MT00025**.

Each attendee should claim **THREE** CEU points for completing this Quality Control Journal Club exercise, and retain a copy of the relevant Thistle QA Participation Certificate as proof of registration on a Thistle QA EQA.

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HYPERURICAEMIA

Case Study:

A man aged 45 years presented with acute arthritis of both knees and the left metacarpo-phalangeal joints. The plasma and urinary urate values were:

plasma urate:	0.75 mmol/L (0.15-0.45)
plasma creatinine:	0.10 mmol/L (0.06-0.12)
Urinary urate (purine-free diet):	3.2 mmol/day (<3.6)

Synovial fluid aspirated from the left knee joint revealed leucocytes containing uric acid crystals.

Comment:

The definitive diagnosis of gout requires the demonstration of at least one of the following:

- tophaceous deposits
- uric acid crystals in the involved joint(s), e.g. within leucocytes

Up to 80% of cases of primary gout are associated with a normal or decreased urinary excretion of urate. If the excretion rate is low treatment with uricosuric agents (e.g. probenecid) is appropriate. If the renal excretion of urate is high ('secretors'), the appropriate treatment is allopurinol.



PROFICIENCY
TESTING SANAS Accredited to ISO Guide 43 / ILAC G13

Therapy of hyperuricaemia:

There are two groups of drugs available which lower the plasma urate level: allopurinol which inhibits the conversion of xanthine to urate, and the uricosuric agents (probenecid, sulphinyprazone) which increases renal excretion of urate.

Gout: Acute gouty arthritis should, in the first instance, be treated with the specific agent colchicines, or one of the anti-inflammatory drugs such as phenylbutazone or indomethacin, as allopurinol and uricosuric agents do not relieve the pain of acute gout. When the acute attack subsides hypouricaemic agents can then be started.

The choice of drug for the treatment of interval gout depends on the mechanism of the hyperuricaemia and the renal function status. If there is over-production of urate (evidenced by a high 24-hour urate excretion), then allopurinol is the drug of choice. If there is under-excretion then the uricosuric drugs should be considered as a first choice. The latter are ineffective if there is significant renal insufficiency (when the creatinine clearance is less than 30 mL/min).

Asymptomatic hyperuricaemia: There are no clear guidelines for the management of this disorder. Some clinicians treat all cases of hyperuricaemia because of the possibility of renal damage, whilst others do not institute therapy unless the plasma urate concentration is greater than 0.5 mmol/L, or there is some evidence of renal involvement. Whatever the plasma urate level, it is important to search for a treatable cause (e.g. drugs, haemolytic anaemia, malignancy) and relieve it if possible.

CPD QUESTIONS

1. How would you treat acute gouty arthritis?
2. What drugs are available to lower the plasma urate level?
3. Discuss treatment when the urinary excretion of urate is low and when it is high?